

Name:

Date:

Period:

Punnett Square & Word Problems Independent Practice KEY

He = heterozygous

Ho = homozygous

Label the following genes with either an He/Ho

Aa - **He**

Dd - **He**

BB - **Ho**

EE - **Ho**

cc - **Ho**

ff - **Ho**

List phenotypes for: Not having acne is dominant to having acne

AA - **no acne**

Aa - **no acne**

aa - **acne**

List genotypes for: Tall plants are dominant to short plants

Tall plant - **TT**

Tall plant - **Tt**

Short plant - **tt**

Word problems - complete work for numbers 1-6 on the back of this sheet.

1. Show the punnett square for the following word problem.

In summer squash, white fruit color (W) is dominant and yellow fruit color (w) is recessive. A squash plant that is homozygous for white fruit color is crossed with squash plant that is homozygous for yellow fruit color.

①

	W	W
W	WW	WW
w	Ww	Ww

②

	T	T
t	Tt	Tt
t	Tt	Tt

Information: In garden peas, tall vine (T) is dominant and short vine (t) is recessive.

2. If a homozygous tall pea plant is crossed with a homozygous short pea plant, **what genotypes are possible in the offspring?** 4 Tt

3. If a heterozygous tall pea plant is crossed with a short pea plant, **what genotypes are possible in the offspring?** 2 Tt, 2 tt

③

	T	t
t	Tt	tt
t	Tt	tt

④

	S	S
s	Ss	Ss
s	Ss	Ss

Information: In humans, straight toes (S) is dominant over curled toes (s).

4. **What would be the result** of a cross between a recessive male and a heterozygous female? 2 Ss, 2 ss

5. **What percent will be homozygous recessive?** 50%

Information: In dogs, erect ears (E) is dominant over droopy ears (e).

6. **What are the results** if two heterozygous dogs have a litter of puppies? 1 EE, 2 Ee, 1 ee

7. **What percent** will be heterozygous? 50%

⑥

	E	e
E	EE	Ee
e	Ee	ee